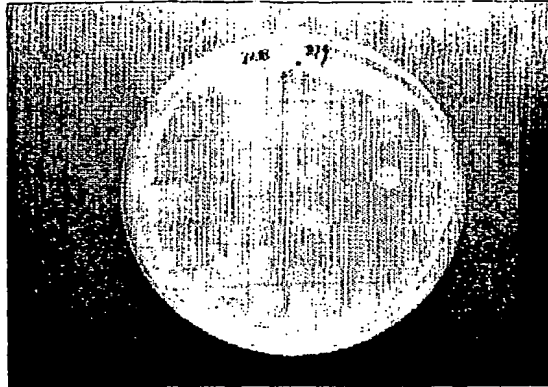


Figure 1**A.****B.**

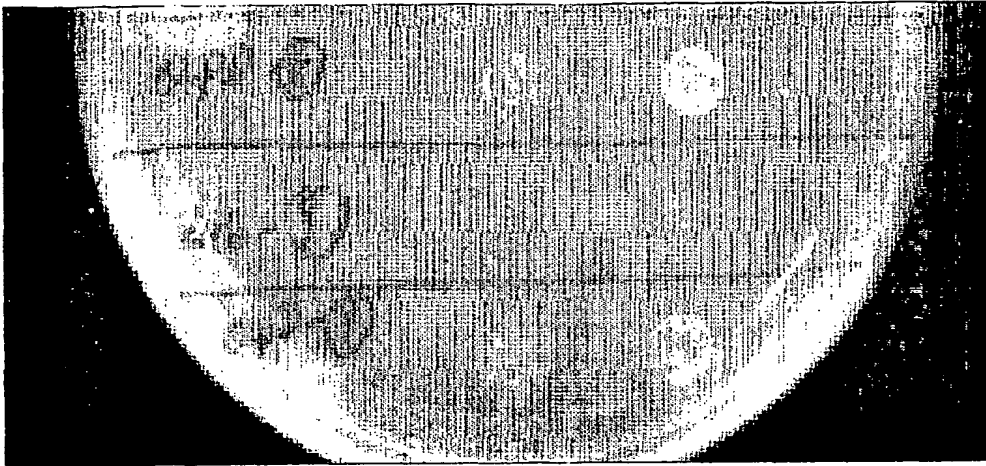
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Figure 2



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Figure 3

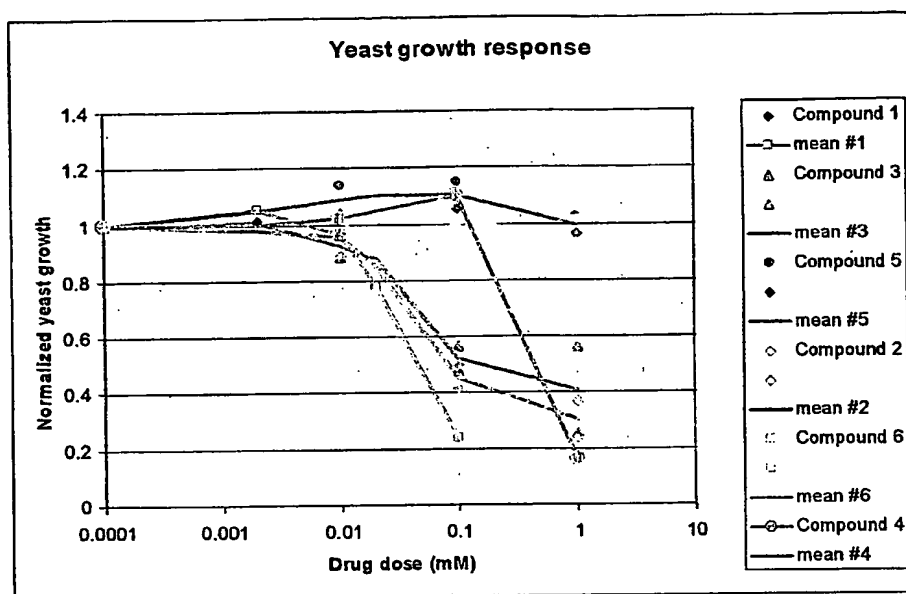
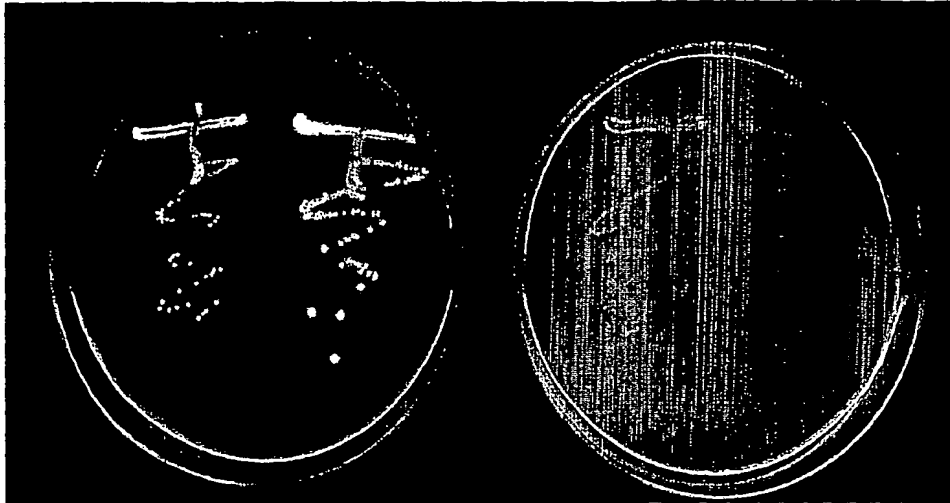


Figure 4

Alignment of Voltage-Gated Potassium Channels Relevant Regions

hKv1.1	PYFITLGTETIAEQ-----EGNQKEQATSLAILRVIRLVRVFRIFKLSRHSKG
mKv1.2	PYFITLGTETLAEKP-----EDAQQGQQAMSLAILRVIRLVRVFRIFKLSRHSKG
Kv1.4	PYFITLGTDLAQQQG-----GGNGQQQQAMSFALLRIIRLVRVFRIFKLSRHSKG
Kv1.3	PYFITLGTETLAEKQ-----GNGQQAMSLAILRVIRLVRVFRIFKLSRHSKG
hKv1.5	PYFITLGTETLAEQQPGG-----GGGGQNGQQAMSLAILRVIRLVRVFRIFKLSRHSKG
ShakerB	PYFITLATVVAEEEDTLNLPKAPVSPQDKSSNQAMSLAILRVIRLVRVFRIFKLSRHSKG
rKv3.1	PFYLEVG-----LSGLSSKAAKDVLGFLRVVRFVRIIRLIRFHLTRHFGV
rKv2.1	PYYVTIFLTESNKS-----VLQFQNVRRVQIFRIMRILRLILKLARHSTG
hKv4.2	PYYIGLVMTDNEDVS-----GAFVTLRVFRVFRIFKFSRHSQG
hKv1.1	LQILGQTLKASMRELGLLIFFLFIGVILFSSAVYFAEAE-----EAESHFSSIPDA
mKv1.2	LQILGQTLKASMRELGLLIFFLFIGVILFSSAVYFAEAD-----ERDSQFPSIPDA
Kv1.4	LQILGHTLRASMRELGLLIFFLFIGVILFSSAVYFAEAD-----EPTTHFQSIPDA
Kv1.3	LQILGQTLKASMRELGLLIFFLFIGVILFSSAVYFAEAD-----DPTSGFSSIPDA
hKv1.5	LQILGKTLQASMRELGLLIFFLFIGVILFSSAVYFAEAD-----NQGTHFSSIPDA
ShakerB	LQILGRTLKASMRELGLLIFFLFIGVILFSSAVYFAEAG-----SENSEFFKSIPDA
rKv3.1	LRVLGHTLRASSTNEFLLLIIFLALGVLIATMIYYAERIGAQPNDPSASEHTHFNIPIG
rKv2.1	LQSLGFTLRSSYNELGLLILFLAMGIMIFSSLVFFAEKD-----EDDTKFKSIPAS
hKv4.2	LRILGYTLKSCASELGFLFLSILTMAIIIFATVMFYAEKG-----SSASKFTSIPAA
hKv1.1	FWWAVVSMTTVGYGDMYPVTIGGKIVGSLCAIAGVLTIALPVPVIVSNFNFYHRETEGE
mKv1.2	FWWAVVSMTTVGYGDMVPVTIGGKIVGSLCAIAGVLTIALPVPVIVSNFNFYHRETEGE
Kv1.4	FWWAVVTMTTVGYGDMKPITVGGKIVGSLCAIAGVLTIALPVPVIVSNFNFYHRETEGE
Kv1.3	FWWAVVTMTTVGYGDMHPVTIGGKIVGSLCAIAGVLTIALPVPVIVSNFNFYHRETEGE
hKv1.5	FWWAVVTMTTVGYGDMRPITVGGKIVGSLCAIAGVLTIALPVPVIVSNFNFYHRETDHE
ShakerB	FWWAVVTMTTVGYGDMTPVGVWGKIVGSLCAIAGVLTIALPVPVIVSNFNFYHRETDQE
rKv3.1	FWWAVVTMTTLGYGDMYPQTWSGMLVGCALAGVLTIALPVPVIVSNFNFYHRETDQE
rKv2.1	FWWATITMTTVGYGDIYPKTLGKIVGGLCCIAGVLVIALPIPIIVNNFSEFYKEQKRQE
hKv4.2	FWYTIVTMTTLGYGDMVPKTIAGKIFGSICSLSGVLVIALPVPVIVSNFVSRIYHQNRAD

Figure 5**A.****B.**